Nairobi Framework Capacity building in the LAC region

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Nairobi Framework

Capacity building in the LAC region

Focus on collaborative efforts with other partners

Energy & Carbon Finance,

UNEP RISOE Centre (URC)

Regional CDM DNA Forum

Santo Domingo 11 - 12 October 2010

Overview of talk

- Barriers for scaling up CDM
- UNEP's approach to supporting CDM engagement
- Collaborative programs
- Analytical and information activities
- Web tools
- Regional activities
- What's next -

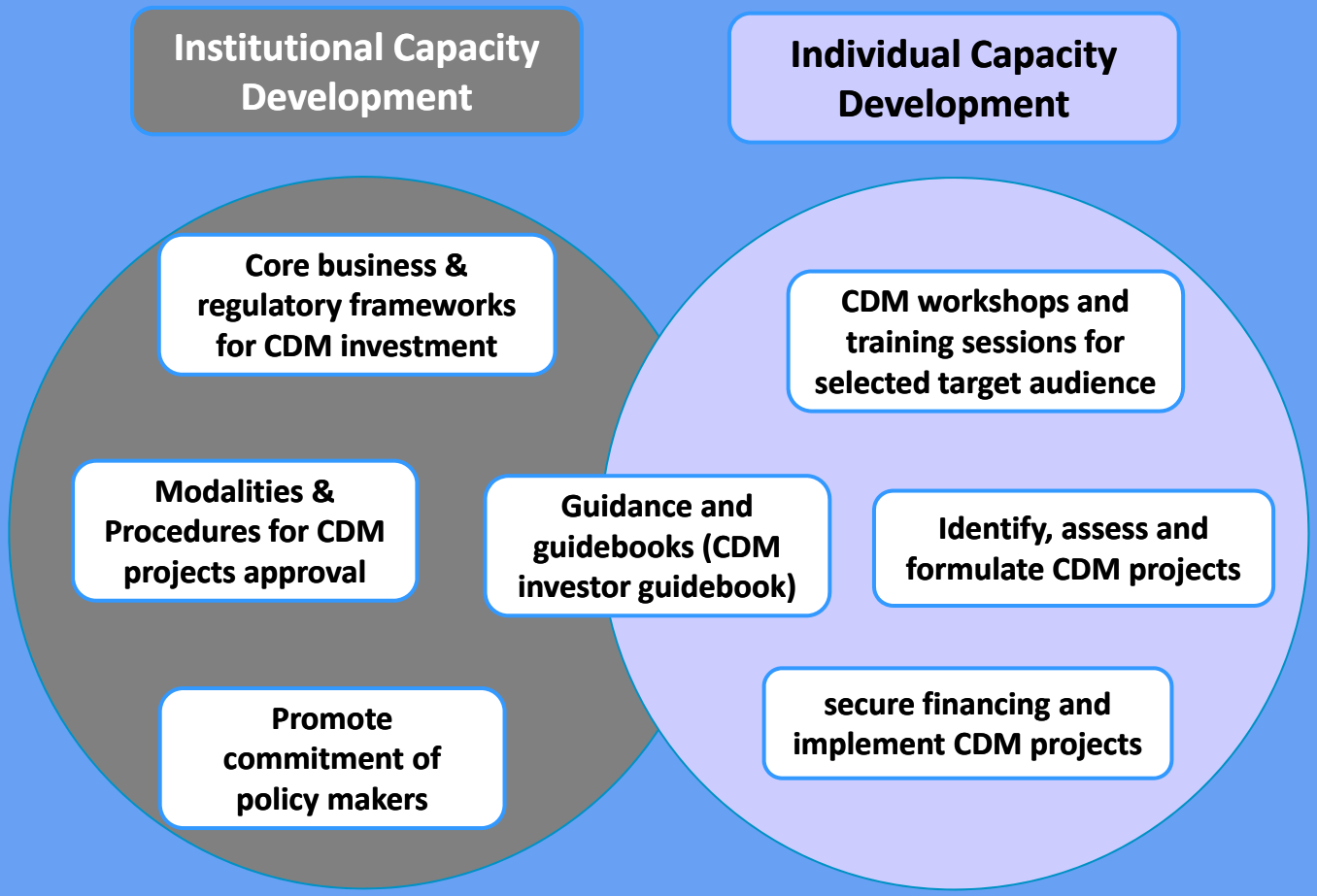
Issues for discussion

- How to increase engagement in CDM activities
- No simple answers – institutional capacity building is part of the solution BUT not a "silver bullet"
- Countries need to be committed and able to create attractive business conditions for CDM
- Project development engagement of both private and public sector entities plus PPPs
- Facilitating finance – involving local, regional and international finance institutions
- Access to up-to-date technical information and training

UNEP Contribution to the NF

- A comprehensive capacity development package
- Provision of CDM knowledge and dissemination
- CDM Bazaar & Pipeline
- Provision of technical and financial assistance to country's institutional and individual preparedness for the CDM in more than 40 countries – impact on host country attractiveness
- Support to national CDM portfolio creation and or diversification – public and private sectors
- Facilitation of national portfolios promotion and dissemination through regional events, such as the Regional Carbon Forum and in Carbon Expo
- Engaging with local and regional financial institutions

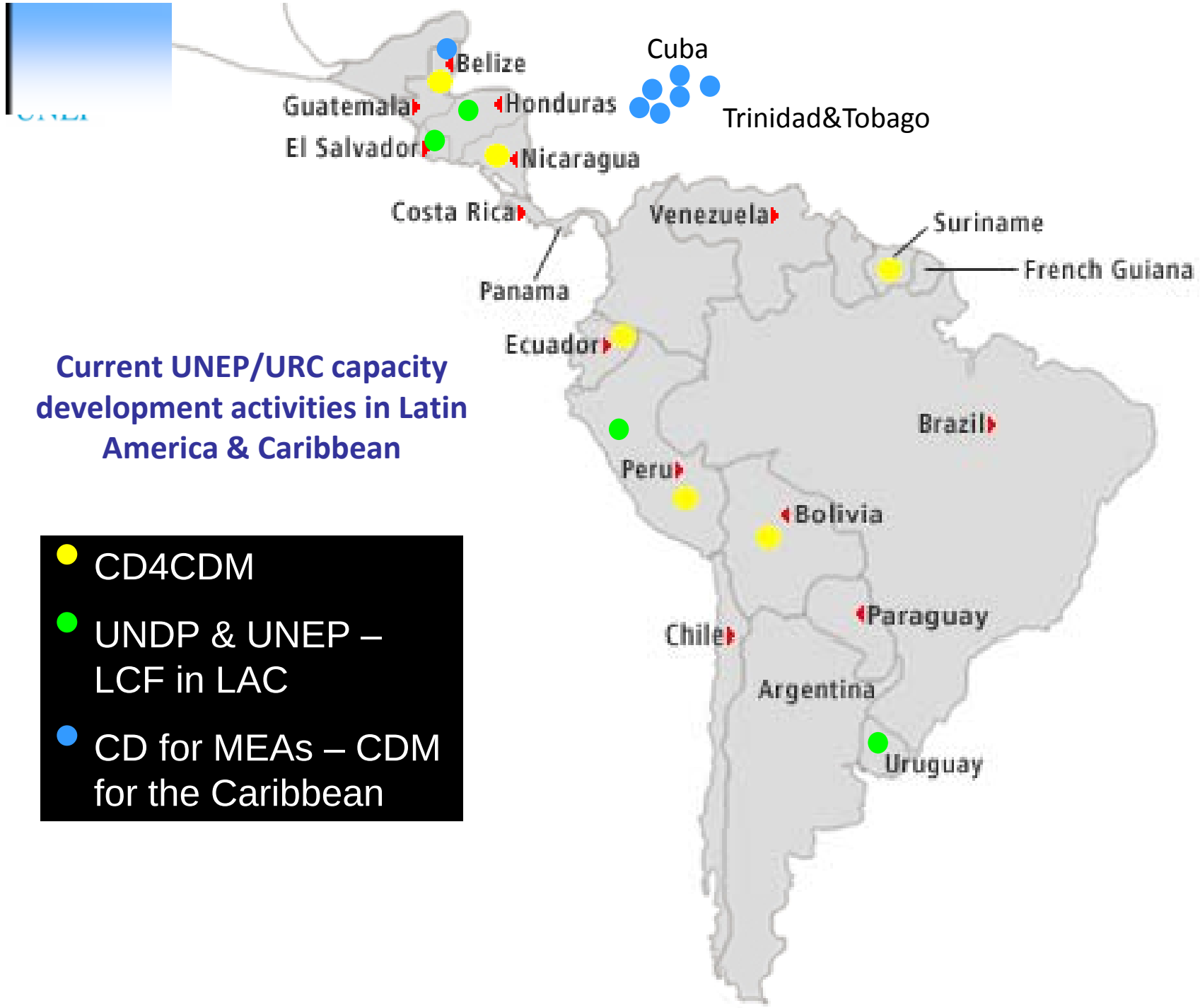
UNEP CDM capacity development program



Creates a national CDM project portfolios and the institutional capability to attract CDM investments

project approval → *project origination*

Promotion of national CDM portfolios in Regional Carbon Forums and Expo



Current UNEP/URC capacity development activities in Latin America & Caribbean

- CD4CDM
- UNDP & UNEP – LCF in LAC
- CD for MEAs – CDM for the Caribbean

Collaboration with CARICOM
ACP – MEAs – CDM

Project Overview

- Funded by the EC – EUR 4,3 millions
- Simultaneous execution in 12 ACP countries + regional activities in the Caribbean and the Pacific
- Duration: 4 years
- Executing Agency: UNEP Risø Centre, in close coordination with CARICOM & 5C the AUC and SPREP and local partners.

Objectives

- enable targeted ACP countries to participate in the global carbon market
- provide skills to identify, design, approve, finance, implement and monitor CDM projects,
- emphasise the development of a regional CDM projects portfolio that could be marketed in international carbon events
- support the provision for Designated National Authority (DNA) website.

ACP – CD4CDM

Project participating countries

- **Africa**: Angola, Botswana, Côte d'Ivoire, Malawi, Nigeria, Rwanda and São Tomé and Principe
- **Caribbean**: Belize, Cuba and Trinidad and Tobago. Regional activities will also be conducted.
- **Pacific**: Fiji and Solomon Islands. Regional activities will also be conducted

ACP – CD4CDM – National level

- National CDM Project Portfolios
  - Potential sectors for CDM projects will be prioritized
  - 48 Project Idea Notes (PINs) will be developed (4 per country)
  - 24 Project Designs Documents will be formulated (2 per country)
  - 4 POA PINs will be developed (2 per region)
  - 2-4 POA – DDs will be formulated for each region
- Promotion of CDM Portfolios
  - 3 Regional Carbon Forums will be organized
  - Participating country delegations will be supported to participate in Carbon Expo 2011
  - 3 Regional Carbon Forums for the Financial sector
  - National CDM websites will be developed

ACP – CD4CDM – Regional level

- Regional Activities
  - Two to three high-potential sectors for Program of Activities (POAs) have been identified, with potential for regional level implementation, (several Islands). Priority sector will be rural electrification, demand side management and municipal electrification
  - Regional POA Training Workshop
  - 2 Regional Workshop for DNAs
  - 4 POA PINs and 2POA DD for prioritized sectors in each region
  - A regional workshop to present developments of PINs and POAs
  - A regional Carbon Forum
  - A regional Carbon Finance Bankers' Forum
  - Participate in Carbon Expo to present and promote portfolio of PINs and PDDs

Collaboration with UNDP on Carbono 2012

Some key activities will be :

- Private sector CDM project International Course
- Regional Designated National Authority (DNA) capacity-building training workshop and network
- Support to POA development
- Specific in-country CDM training and technical assistance activities

Regional activities

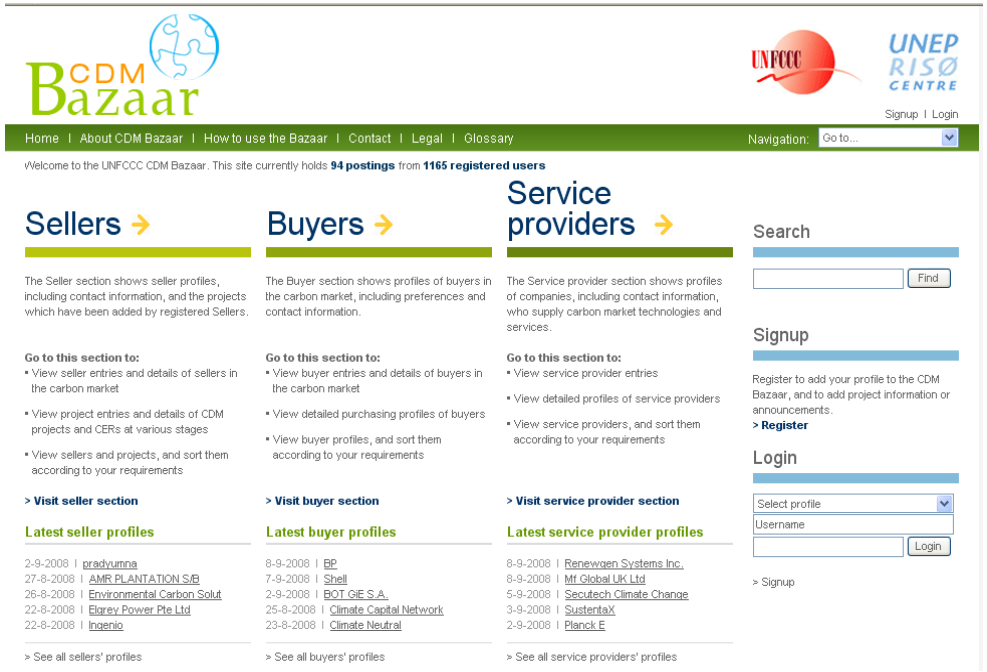
Investment mobilization and engaging the finance sector

- African Bankers' Carbon Finance Investment Forum. May 2007, Johannesburg
- Dakar, Senegal: Carbon finance perspectives for the banking sector. Feb 12-14, 2008
- Training finance sector staff – Regional Financial Sector CDM Forum, Lima, Nov 2008
- Finance guidebook

Regional Carbon Forums

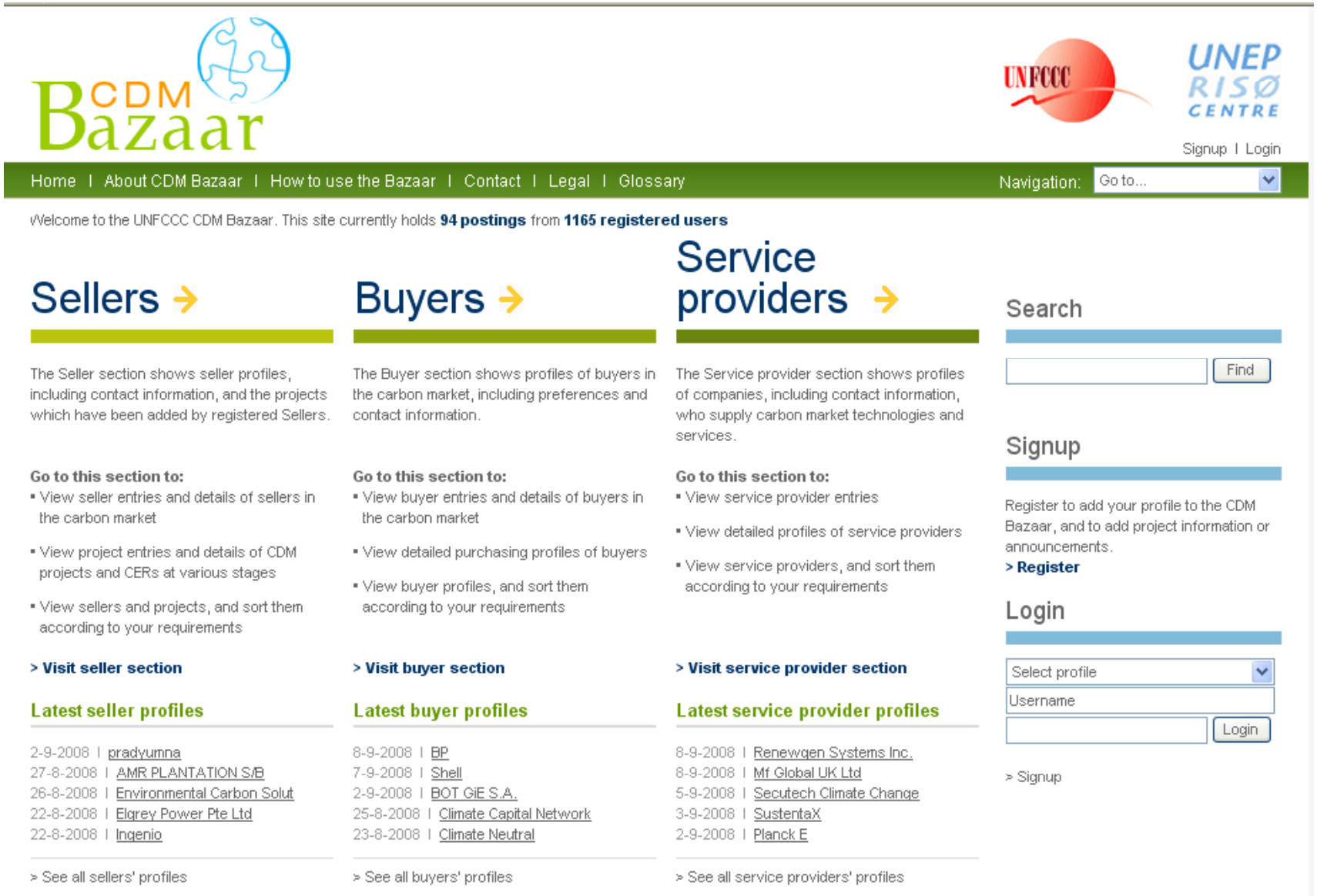
- **Africa Carbon Forum,** Senegal**,** Sep. 2008**;** Kenya, March 2010
- **Latin America Carbon Forums,** Quito 2006, Lima 2007, Santiago 2008, Panama 2009, DR 2010
  - ✓ Knowledge and information sharing platforms
  - ✓ Bring together CDM stakeholders to benefit from:
  - ✓ Updates on Carbon markets; technical knowledge sharing on conferences; trade fair and capacity-development sessions,
  - ✓ Organizers: IETA, UNEP/Risø, WB, OLADE, UNDP, and UNFCCC

LAC Carbon info platform led by IDB



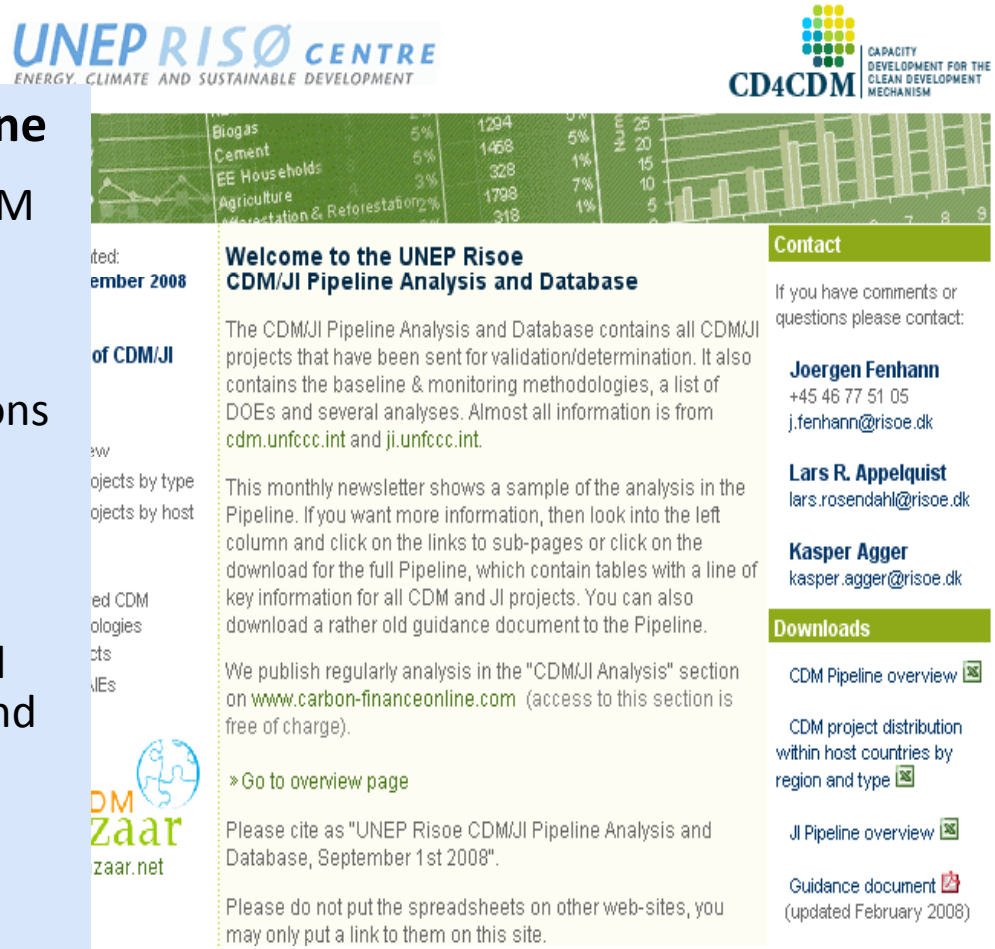
Information and data activities
Close collaboration with UNFCCC Secretariat

Virtual platform for information exchange



Analytical activities & publications

- **CDM data & analysis - CDM&JIPipeline**
  - A web based data base compiling CDM projects
  - Analysis and market surveillance
  - Projections of GHG emission reductions
  - Calculation of different parameters
  - It also contains the baseline & monitoring methodologies, a list of DOEs and several analyses. Almost all information is from cdm.unfccc.int and ji.unfccc.int.



Data base and analysis providing monthly

Analytical Activities & Publications

Support the informational and educational objectives of our capacity development activities

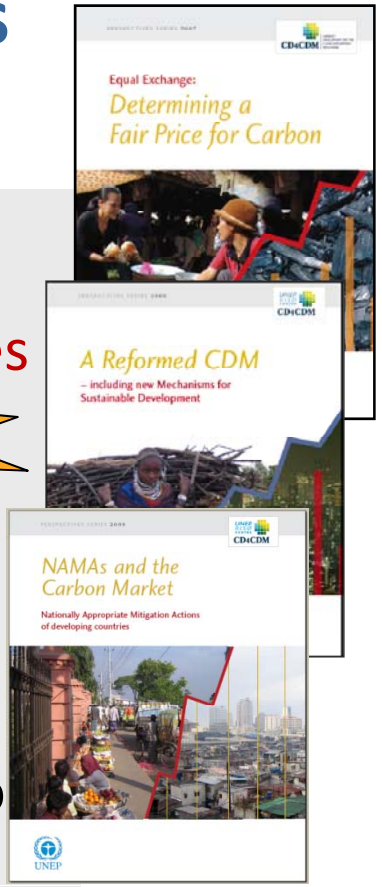
- Guidebooks on specific issues of the CDM
  - Introduction to the CDM: 2002
  - CDM Information and Guidebook: Dec. 2003
  - Institutional strategy to promote the CDM in Peru: Feb. 2004
  - CDM legal issues Guidebook: May 2004
  - Institutional issues in CDM implementation: May 2004
  - CDM and Sustainable Development: Feb. 2004
  - Guidebook on developing baselines for CDM projects: June 2004
  - PDD Guidebook: Navigating the Pitfalls - Second edition: April 2008)
  - Guidebook to Finance CDM projects: May 2007
  - Implementing CDM Projects: Guidebook to Host Country Legal Issues: August 2009
  - A Primer on CDM Programme of Activities: November 2009

provide targeted audiences with 'reference' manuals containing clear operational instructions on concrete topics for which public information is already available.

Analytical Activities & Publications

- Carbon Market Perspective Series
  - 2010 - Carbon Markets Lessons for REDD+ Activities in Developing Countries
  - 2009 - NAMAS and the Carbon Market
  - 2008 - A Reformed CDM - Including New Mechanisms For Sustainable Development
  - 2007 - Equal Exchange: Determining a Fair Price for Carbon

Upcoming

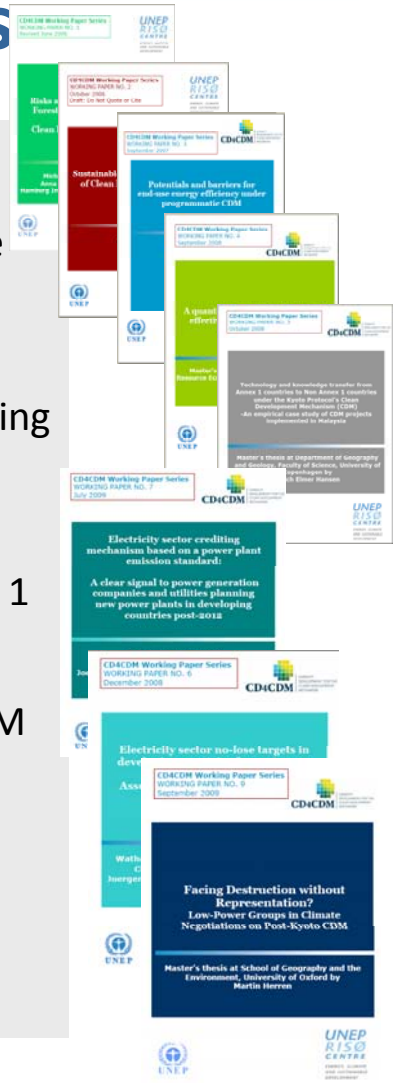


aims at comprising an annual special feature on a topic of pivotal importance to all developing countries in the global carbon market

Analytical activities & publications

- CD4CDM Working Paper Series

1. Facing Destruction without Representation? Low-Power Groups in Climate Negotiations on Post-Kyoto CDM
2. PoA CDM Manual - Mini Biogas Plants for Households
3. Electricity sector crediting mechanism based on a power plant emission standard: A clear signal to power generation companies and utilities planning new power plants in developing countries post-2012
4. Electricity sector no-lose targets in developing countries for post-2012: Assessment of emissions reduction and reduction credits
5. Technology and knowledge transfer from Annex 1 countries to Non Annex 1 countries under the CDM - An empirical case study of CDM projects implemented in Malaysia
6. A quantitative analysis of the cost-effectiveness of project types in the CDM Pipeline
7. Potentials and barriers for end-use energy efficiency under programmatic CDM
8. Sustainable Development Benefits of Clean Development Projects
9. Risks and Chances of Combined Forestry and Biomass Projects under the Clean Development Mechanism



analytical in nature and are designed to address critical policy issues and methodological barriers constraining the CDM through cutting-edge independent research.

Web based tools and platforms

- Web based CDM Methodology Selection Tool

NEW

- A handy and simple tool
- Categorizes methodologies by technology
- It facilitates choosing a methodology that is applicable to the type of CDM project you are planning to develop
- Builds on the list of approved methodologies
- It is updated regularly
- It is a work in progress – comments and suggestions for improvement are welcome

Web based tools and platforms

- CDM Methodology Fact Sheets

NEW

Type	Number of CDM projects (rejected projects excluded)		Estimated CERs (000)/ year		Number of CDM projects with CERs issued		Issuance success	CERs (000) issued	
Wind	877	17.4%	78016	11.5%	134	25.2%	83%	16842	4.5%
Total	4926	100%	680327	100%	650	100%	97%	372352	100%

Region and "top3" countries	Number of wind CDM projects in the pipeline		Region and "top3" countries	Number of wind CDM projects in the pipeline		Region and "top3" countries	Number of wind CDM projects in the pipeline		Region and "top3" countries	Number of wind CDM projects in the pipeline	
Mexico	16	36.4%	China	430	53.8%	Egypt	4	50.0%	Cyprus	6	85.7%
Brazil	10	22.7%	India	351	43.9%	Morocco	3	37.5%	Israel	1	14.3%
Chile	6	13.6%	South Korea	13	1.6%	Cape Verde	1	12.5%	-	-	-
Other countries	12	27.3	Other countries	5	0.1%	Other countries	0	0%	Other countries	0	-
Latin America	44	100%	Asia and the Pacific	799	100%	Africa	8	100%	Europe, Central Asia and The Middle East	7	100%

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Source: UNEP Risoe CDM/JI Pipeline Analysis and Database, February 1st 2010

HYDRO

Hydro CDM projects are divided into small scale (less than 15 MW) and large scale projects. During 2008 small hydro installations grew by 28% to raise the total world small hydro capacity to 85 GW.

World wide hydroelectric power (small scale and large scale) supplies 20% of world electricity. Given the right location, hydro power is a low maintenance source of renewable energy.

Description of technology

The energy in falling water can be converted into electrical energy or into mechanical energy to pump water or grind grain. The main components of hydro systems are the turbine and the generator. Other components include the physical structures to direct and control the flow of water, mechanical and/or electronic controllers, and structures to house the associated equipment. Different types of turbines are available and the optimum choice depends strongly on the head and the water flow rate. Generally, a high head site will require smaller, less expensive turbines and equipment. For most hydro projects, water is supplied to the turbine from some type of storage reservoir, usually created by a dam or weir. The reservoir allows water to be stored and electricity to be generated at more economically desirable times – during periods of peak electrical demand, for example – when the electricity can be sold for a higher price. In these systems the amount of electrical power that can be generated is determined by the amount of water that is stored in the reservoir and the rate at which it is released.

The most environmentally-sound hydro systems do not impact the amount or pattern of water flow that normally exists in the river or stream. Such "run-of-river" systems may use a special turbine placed directly in the river to capture the energy in the water flow. A conventional plant may also operate as a runoff river system if the natural variability of the river flow is maintained. However, this type of system may generate less power during times of low water flow.

Small scale hydro systems are modular and can generally be sized to meet individual or community needs. However, the financial viability of a project is subject to the available water resource and the distance the generated electricity must be transmitted. Hydro systems do not create any pollution when they are operating, and generally offer highly reliable power. They also have very low running or maintenance costs, and they can be operated and maintained by trained local staff. Hydro systems generally have a long project life. Equipment such as turbines can last 20–30 years, while concrete civil works can last 100 years. This is often not reflected in the economic analysis of hydropower projects, where costs are usually calculated over a shorter period of time. This is important for hydro projects, as their initial capital costs tend to be comparatively high because of the need for civil engineering works.

Hydro developers generally need to invest in detailed analyses before a project can proceed. Regulatory authorities may require structures or systems that prevent adverse effects on flora and fauna, particularly fish. Conversely, some hydro systems may enhance local environments through, for example, the creation of wetlands.

Example of application

Title: "Santa Cruz I Hydro Power Plant" (ref. no. 2405)

The CDM project is a run-of-river hydropower plant, located north east of Peru's capital city of Lima at 1,985 meters above sea level in the basin of the Blanco River (Santa Cruz) in the district of Colcas. The plant will have an installed capacity of 5.9 megawatts and a projected yearly average generation of 35,827 megawatt hours. The objective of the Santa Cruz I Hydroelectric Power Plant is renewable electricity generation to be supplied to the Peruvian National Inter-connected Electric Grid.

Project investment: USD 7,500,000

Project CO2 reduction over a crediting period of 7 years: 118,490 tCO2e

Expected CER revenue (CER/USD 10): USD 1,184,900

Common methodologies

The methodologies presented here are the ones mainly used by the project developers in the different hydro projects in the CDM pipeline.

- ACM2 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"
- AM52 "Increased electricity generation from existing hydropower stations through Decision Support System optimization"
- AMS-I.D."Grid connected renewable electricity generation"
- AMS-I.A."Electricity generation by the user" http://cdm.unfccc.int/methodologies/index.html

CDM status

CDM projects based on hydro hence represent 27.4% of all CDM projects in the pipeline and is the most common project type in the pipeline. The geographical distribution of hydro projects is concentrated around Asia and in particular China.

A snapshot review of technologies used to date in CDM activities, including:

- An example of application including:
- Investment
- Estimated CERs revenues
- Performance under CDM
- Methodology applicable to the technology